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(54) Title: MAINTAINING PERFORMANCE QUALITY OF BROADBAND SYSTEM IN THE PRESENCE OF NARROW BAND INTERFERENCE

(57) Abstract

A method and device which dynamically detects, tracks and filters interfering signals with sufficient speed (i.e. within one IS-95 CDMA data frame period, or 20ms) and fidelity to eliminate or greatly reduce the deleterious effects of narrow band interferer signals on a CDMA link. When inserted in an RF signal path an Adaptive Notch Filter (ANF) detects narrow band interferers above a threshold level within the CDMA signal. Detection is accomplished by continuous scanning of a preset excision band, e.g. a specified narrow band associated with an AMPS system. Detected interferers are then automatically acquired and suppressed. This is achieved by electronically placing a rejection notch at the frequency of the interferers.

Multiple notch filters may be used to simultaneously suppress multiple interferers. In the absence of interferers a bypass mode is selected allowing the RF signal to bypass the notch. Upon detection of an interferer, a switch is made to a suppression mode where the interferer is steered through a first notch section and suppressed. Alternatively, an external control line may be used to select the bypass mode so that the signal is allowed to pass the notch section, regardless of interferer content.

